

# **Tracking Milk Shipments with New Technology**

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## **Current Computer Systems**

- **Essentially all payroll, pooling, or trucking systems automated to some degree**
- **Common Problems and Obstacles with current systems:**
  - Designed years ago when space was an issue
  - Processing is cumbersome and limiting in “hurry up and wait” environment
  - Granularity of Data not correctly defined
  - Data hard to retrieve and assimilate for sound decision making
  - No Ad hoc querying available

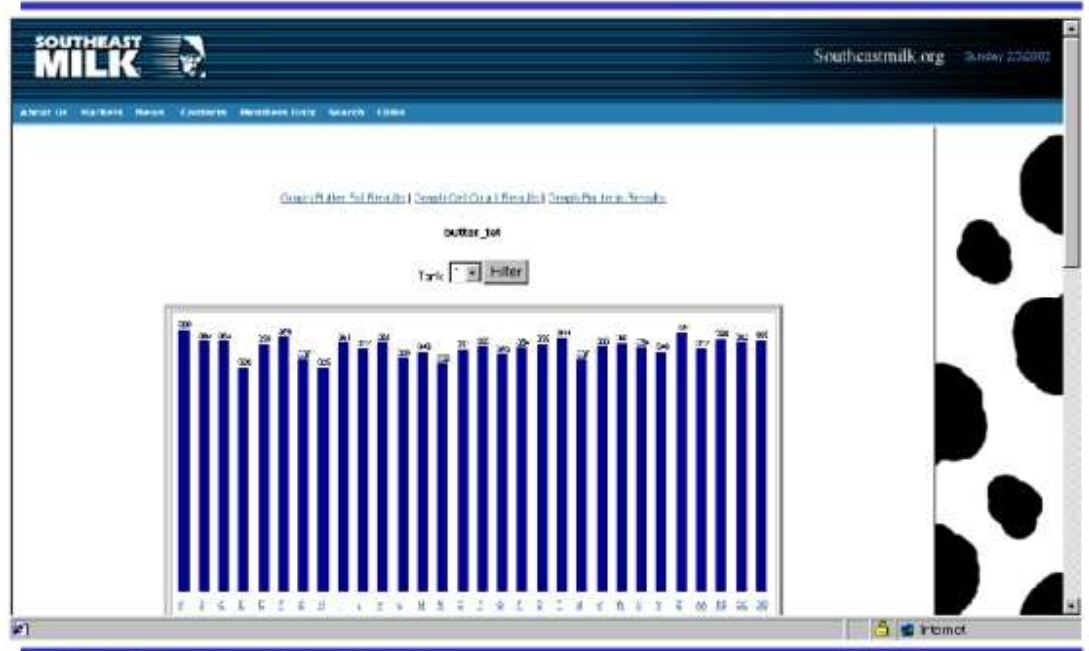
# **New Technology Available**

- **Unlimited processing power and drive space easily affordable**
- **GPS tracking systems**
- **Bar Coding/Scanning systems**
- **OCR (optical character recognition)**
- **Powerful RDBMS**
- **XML/Java Applets**
- **Data Mining Applications**
- **Choice of Communication medium:**
  - Satellite
  - Local or Wide Area Network
  - Internet/VPN
  - Wireless

# **Example #1 Tracking Milk Shipments from Farm**

- **Computers installed on each truck that use GPS coordinates to track and monitor:**
  - Physical Position
  - Engine performance
  - Number of stops
- **Hauler inputs data into onboard computer that includes all details of milk pickup (what would usually recorded on manifest ticket)**
- **At end of the route, hauler uses key to upload all data collected for the day into central server.**
- **Data can then be distributed to multiple systems including:**
  - Driver payroll
  - Producer Payroll/plant invoicing
  - Web Servers
  - Route management and scheduling

# Interface for Producers



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## **Example #2**

- **Laboratory samples received for testing**
- **Laboratory personnel rack samples**
- **Soma counter and Bentley record quality results for**
  - Butterfat test
  - Protein Test
  - SNF
  - Somatic Cell
- **Data automatically loaded to producer payroll system and joined with production data from manifest ticket**
- **Data automatically loaded to web server nightly and is posted in secured site for membership only.**
- **48 hr. later, bacteria results joined with previous data and additionally loaded nightly.**

## **Example #3 Web Based Applications**

- **Web Based payroll system for multiple entities – either division of one company or sharing of application by multiple companies.**
  - Allows for sharing of development, hardware, and maintenance costs
  - Does not dictate business rules to each entity
  - Eliminates movement of data through file layouts and problems associated with maintenance.
  - Enhanced reporting capabilities - don't recreate the wheel

## **Use of Computer Technology on Farm**

- **Over 6,000 related articles and websites returned in internet search of Software for Dairy Herd Management**
- **Many systems marketed commercially Herd**
  - Management Dairy Plan DP5
  - AGPRO Dairyman
  - Dairy Enterprise by AgSource
  - Stock Keeper by Herd-Pro

# How to Access Your Data

- **Home PC to Office PC**
  - PC Anywhere
  - VPN
  - Citrix
- **Intranet/Internet – from home or office**
- **Cell Phone**
- **PDA – such as Handspring or Palm Pilot**

# Software Project Success ??? Rate

- **Generally estimated that over 70% of all software engineering projects fail or are cancelled**
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- **Failure rate of evolving a system from an existing system is equally as bad.**
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- **And... They almost never fail due to technical reasons!**

# Software Reengineering Projects

- **The Software Engineering Institute (SEI) was established in 1984 by Congress as a federally funded research and development center with a broad charter to address the transition of software engineering technology. The SEI is sponsored by the U.S. Department of Defense through the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics.**
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- **The SEI has established itself as a trusted partner with industry organizations and government agencies in the development, acquisition, and support of software-intensive systems.**

## Limiting Factors in Moving Forward

- **Difficult to determine ROI in most cases. Precedent is not available in Dairy Industry**
- **Most reengineering efforts in Dairy Industry would involve custom applications**
  - Budget Constraints in volatile industry
  - Availability of personnel on staff
  - Fear of Failure

## **Successful Projects Must Have.....**

- **Management Sponsorship of Project**
- **Successful Change Agent**
- **Project Methodology**
- **Sound Architecture**
- **Treated as a project with a defined scope, schedule, and budget**
- **Reliable resources (hardware, software, and personnel)**

## **Bottom Line**

- **Technology is available and is used more aggressively in other industries**
- **Limiting Factor is management of the new technology**